

Does a History of Trauma Contribute to HIV Risk for Women of Color?

Implications for Prevention and Policy

Gail E. Wyatt, PhD, Hector F. Myers, PhD, John K. Williams, MD, Christina Ramirez Kitchen, PhD, Tamra Loeb, PhD, Jennifer Vargas Carmona, PhD, Lacey E. Wyatt, MD, MPH, Dorothy Chin, PhD, and Nicole Presley, BA, MEd

America is facing a public health crisis. HIV infection and AIDS among women in the United States have increased dramatically over the last decade.¹ Although only 1 in 4 women in the United States is African American or Latina, these women represent 77% of the AIDS cases.¹ These national rates are replicated in Los Angeles, Calif, where the HIV and AIDS incidence rate among African American women (21 per 100 000) was 10 times higher than the rate among European American women (2 per 100 000) and 3 times higher than the rate among Latina women (7 per 100 000).²

Several factors account for disproportionate HIV morbidity, including racial/ethnic group affiliation, socioeconomic status, overall health, sexual risk taking, and higher rates of sexually transmitted diseases (STDs).^{3–5} Women who report early and chronic sexual abuse have a 7-fold increase in HIV-related risk behaviors and markers of risk compared with women with no abuse histories.^{6–11} Furthermore, 1 in 3 women report sexual abuse before age 18 years, and 4 million women become domestic violence victims annually.¹² However, when income is controlled, race/ethnicity does not appear to be a specific risk factor for violence.^{13–15} Therefore, additional research is needed to better understand how histories of sexual and physical trauma may contribute to greater risks for HIV and AIDS in women, particularly women of color.

Effects of Sexual and Physical Violence on HIV Risk Taking

The associations between child sexual abuse and HIV-related risks in adulthood have been well documented.^{10,11,16} Child sexual abuse involving penetration, especially intrafamilial abuse, has been associated with high-risk sexual and reproductive behaviors¹⁷

Objectives. We investigated history of abuse and other HIV-related risk factors in a community sample of 490 HIV-positive and HIV-negative African American, European American, and Latina women.

Methods. Baseline interviews were analyzed, and logistic regressions were used to identify predictors of risk for positive HIV serostatus overall and by racial/ethnic group.

Results. Race/ethnicity was not an independent predictor of HIV-related risk, and few racial/ethnic differences in risk factors for HIV were seen. Regardless of race/ethnicity, HIV-positive women had more sexual partners, more sexually transmitted diseases, and more severe histories of abuse than did HIV-negative women. Trauma history was a general risk factor for women, irrespective of race/ethnicity.

Conclusions. Limited material resources, exposure to violence, and high-risk sexual behaviors were the best predictors of HIV risk. (*Am J Public Health.* 2002;92:660–665)

and higher rates of revictimization.^{18,19} The success of HIV prevention messages for women may depend in part on addressing early sexual abuse,¹¹ but few programs address the effects of abuse on sexual risk taking. Thus, recidivism to risky behavioral practices postintervention may be an unintended consequence of the failure of prevention programs to include a full spectrum of skills that women need to cope with past experiences.

Child sexual abuse also is associated with higher rates of rape in adulthood for European American, African American, and Latina women.¹⁸ Thus, women may experience more than 1 traumatic sexual event, which may further increase their risk-taking behaviors.¹⁹ Research has also documented the effects of domestic violence on HIV-related risks and general health.^{20,21} Women who are HIV positive or negative, especially women of color, who report relationship violence have more partners and a diminished ability to effectively negotiate sexual decisions.^{22,23} Other research noted that African American survivors of trauma who are HIV positive were more likely to meet criteria for AIDS than were women who are HIV positive without such a history.²¹ These initial findings suggest the need to further clarify the associations between violence

and HIV risks for other racial/ethnic groups of women who are HIV positive and negative.

Purpose of the Study

This study investigated 2 questions: (1) Does a history of sexual and physical trauma make a significant independent contribution to HIV-related risk in women, compared with demographic and other known behavioral and psychosocial risk factors for HIV? and (2) Are there racial/ethnic differences in the relative contribution sexual and physical trauma make to HIV-related risks? It was expected that women who are HIV positive or negative would differ on child sexual abuse history and trauma and that this variable would be a significant independent predictor of risk for HIV serostatus independent of race/ethnicity and other risk factors. However, it was also expected that the relative contribution sexual and physical trauma made to HIV-related risk would differ in each racial/ethnic group, with African American women more adversely affected by trauma than the other women were.

METHODS

The University of California Los Angeles–Drew Women and Family Project was the first

National Institute of Mental Health–funded longitudinal HIV study that included a racially/ethnically diverse sample of women who were HIV positive or negative. This 5-year study, conducted from 1994 to 2000, examined HIV- and non-HIV-related life stresses, sexual functioning, coping mechanisms, and disease progression. In this paper, only baseline data on the African American, Latina, and European American women, the 3 racial/ethnic groups at greatest risk for HIV and AIDS,^{1,2} were used to test the hypotheses.

A community sample of 490 women was recruited from HIV and other service agencies in Los Angeles County. Women who were HIV positive responded to flyers, radio and print advertisements, and personal contacts. In addition, a stratified random sample of women who were HIV negative matched on race/ethnicity, age, education, marital status, and geographic residence was recruited with random-digit dialing and 1990 US census tract data.

Eligible women were invited to participate in 4-hour face-to-face interviews conducted by trained, racially/ethnically and linguistically matched female interviewers. This procedure was used to reduce possible culturally mediated obstacles to effective communication. All participants were paid \$50 per session (see Wyatt and Chin²⁴ for a detailed description of the study).

Sample

Prospective seropositive and seronegative participants were screened and enrolled if they were female, were 18 years of age or older, self-identified as members of the 5 major racial/ethnic groups, and showed no evidence of severe psychiatric, neurocognitive, or other physical limitations. More than 600 women were screened, and a sample of 457 women from the 3 primary groups (299 HIV positive and 158 HIV negative) was enrolled. These included 155 African American (108 HIV positive and 47 HIV negative), 153 European American (94 HIV positive and 59 HIV negative), and 149 Latina women (97 HIV positive and 52 HIV negative). The Asian or Pacific Islander and American Indian women enrolled were not included in these analyses because of small numbers.

The sample was relatively young (mean age=36.1 years), high school educated

(mean=12.1 years of education), poor (average per capita monthly income=\$856.87), underemployed (77.7% unemployed or employed part-time), and unmarried or unattached (61.3% had no current partner).

Approximately 3% (n=13) were virgins, 49% (n=223) reported having 5 or fewer lifetime sexual partners, 18% (n=82) had 6 to 10 partners, 15% (n=70) reported up to 30 partners, and 15% (n=69) reported having more than 30 sexual partners.

Slightly less than half of the sample reported never having had an STD (46.8%, n=214), and 49.2% (n=225) reported having had 1 or more STDs. A disproportionately large percentage of women reported having had traumatic experiences. With regard to traumatic experiences, 49% (n=222) were sexually abused as children, 43% (n=197) were abused as adults, and 51% (n=232) had been in a physically abusive relationship.

Measures

A comprehensive structured interview was administered to participants. For purposes of this study, only baseline data relevant to the following variables are reported. *Age* was defined by birth data. *Race/ethnicity* was based on self-identification, and *education* included the number of years of formal schooling. *Employment* was coded as not working (0) and working full- or part-time (1). *Per capita income* was calculated as total monthly household income divided by the number of dependents living in the household. *Marital status* was coded as single (0) and married or living with a partner (1).

HIV serostatus was determined by enzyme-linked immunosorbent assay and confirmed by Western blot and coded as HIV negative (0) or HIV positive (1).

Sexual history was assessed with the Revised Wyatt Sex History Questionnaire,²⁵ a 478-item structured interview that includes open- and closed-ended items that assessed sexual decision making about consensual and nonconsensual experiences. Test-retest reliability on closed-ended items ($r=0.90$) and interrater reliability on open-ended items were established on a weekly basis ($r=0.95$).²⁶

STD history was assessed with 2 questions that inquired about the number and types of STDs they ever had. Participants' responses to

questions about 6 of the most common STDs (i.e., syphilis, gonorrhea, chlamydia, genital warts, genital herpes, pelvic inflammatory disease) were summed into a total STD score.

Number of lifetime male sexual partners was totaled and categorized into 0 sexual partners, 1 to 5 partners, 6 to 10 partners, 11 to 30 partners, and 31 or more partners.

History of child sexual abuse was assessed with a series of questions that asked about nonconsensual sexual experiences before age 18 with an adult and consensual sexual experiences with someone at least 5 years older. Nine questions assessed incidents of fondling, frottage, attempted or completed intercourse, oral sex, and type of penetration. Responses were coded as "yes" to any of the questions (1) or "no" to all questions (0). *Type of child sexual abuse* also was coded as none (0), and extrafamilial abuse (1), or intrafamilial abuse (2) depending on the relationship to the perpetrator.

Adult sexual abuse was assessed by questions about rape or attempted rape before and since age 18. "Yes" responses to either question were coded as (1), and "no" responses were coded as (0).

Relationship violence was assessed with 4 items from the Conflict Tactics Scale.²⁷ Each respondent was asked whether in the last 6 months her partner threw, smashed, hit, or kicked something; slapped or physically attacked or hurt her; or threatened her with or used a knife or gun. If any of these behaviors occurred, respondents also were asked if the events occurred during pregnancy and summed into a total score.

Finally, and to capture the full burden of traumatic experiences for each woman, a *trauma index* variable was calculated and included history of child sexual abuse, adult sexual abuse, and physical violence or conflict. Participants who did not have any of these experiences were coded as (0), those with at least 1 experience were coded as (1), and those with 2 or more experiences were coded as (2).

Data Analyses

First, a series of analyses of variance and χ^2 tests were conducted to test for serostatus differences, by race/ethnicity, in demographic characteristics, numbers of sexual partners, STDs, and histories of child sexual abuse, adult sexual abuse, and relationship conflict or vio-

TABLE 1—Group Differences, by Ethnicity and Serostatus, in Background Characteristics: University of California Los Angeles–Drew Women and Family Project, 1994–2000

	European American		African American		Latina	
	(HIV+) (n = 94)	(HIV-) (n = 59)	(HIV+) (n = 108)	(HIV-) (n = 47)	(HIV+) (n = 97)	(HIV-) (n = 52)
Age, mean y (SD)	38.09 (7.50)	37.76 (9.85)	37.68 (8.07)	34.91 (8.80)	33.12 (7.92)	34.02 (11.35)
Education, grade (SD)	12.72 (2.92)	15.31 (2.47)	12.01 (1.95)	13.53 (2.17)	9.81 (3.35)	10.39 (3.87)
Employment						
Unemployed	70% (n = 66)	17% (n = 10)	85% (n = 92)	36% (n = 17)	87% (n = 84)	54% (n = 28)
Part-time	11% (n = 10)	31% (n = 18)	10% (n = 11)	13% (n = 6)	5% (n = 5)	19% (n = 10)
Full-time	19% (n = 18)	53% (n = 31)	5% (n = 5)*	51% (n = 24)**	8% (n = 8)*	27% (n = 14)**
Income						
Income/capita, \$ (SD)	1040 (1549.0)	2215 (1721.9)	387 (262.5)	1218 (1583.9)	386 (364.3)	460 (381.8)
Household income, \$ (SD)	1901 (2193.4)	5303 (4707.1)	865 (724.7)	3120 (3409.4)	946 (855.9)	1974 (175.0)
Marital status						
Single	65% (n = 61)	34% (n = 20)	79% (n = 85)	74% (n = 35)	56% (n = 54)	48% (n = 25)
Married or living together	35% (n = 33)	66% (n = 39)	21% (n = 23)*	26% (n = 12)**	44% (n = 43)*	52% (n = 27)**
No. of STDs (SD)	1.29 (1.52)	0.52 (0.81)	1.68 (1.47)	0.93 (1.54)	0.80 (1.17)	0.25 (1.01)
No. of sexual partners						
0	2% (n = 2)	5% (n = 3)	1% (n = 1)	0% (n = 0)	2% (n = 2)	10% (n = 5)
1–5	29% (n = 27)	46% (n = 27)	36% (n = 39)	49% (n = 23)	67% (n = 65)	81% (n = 42)
6–10	19% (n = 18)	19% (n = 11)	20% (n = 22)	36% (n = 17)	10% (n = 10)	8% (n = 4)
11–30	28% (n = 26)	22% (n = 13)	14% (n = 15)	13% (n = 6)	9% (n = 9)	2% (n = 1)
>30	22% (n = 21)	8% (n = 5)	29% (n = 31)	2% (n = 1)	11% (n = 11)	0% (n = 0)
Child sexual abuse						
None	51% (n = 48)	59% (n = 35)	37% (n = 40)	51% (n = 24)	59% (n = 57)	60% (n = 31)
Extrafamilial	27% (n = 25)	24% (n = 14)	22% (n = 24)	28% (n = 13)	16% (n = 16)	23% (n = 12)
Intrafamilial	22% (n = 21)	17% (n = 10)	41% (n = 44)	21% (n = 10) [†]	25% (n = 24)	17% (n = 9)
Adult sexual abuse						
None	39% (n = 37)	68% (n = 40)	40% (n = 43)	64% (n = 30)	66% (n = 64)	88% (n = 46)
Rape	61% (n = 57)	32% (n = 19)***	60% (n = 65)	36% (n = 17)***	34% (n = 33)	12% (n = 6)***
Trauma						
None	9% (n = 8)	27% (n = 16)	6% (n = 7)	23% (n = 11)	16% (n = 16)	33% (n = 17)
Less severe	47% (n = 44)	54% (n = 32)	38% (n = 41)	51% (n = 24)	51% (n = 49)	52% (n = 27)
More severe	45% (n = 42)	19% (n = 11)***	56% (n = 60)	26% (n = 12)***	33% (n = 32)	15% (n = 8)***
Relationship conflict or violence (SD)	1.02 (1.09)	0.63 (0.84)	1.18 (1.08)	0.72 (1.08)	0.98 (1.15)	0.71 (1.08)

Note. STDs = sexually transmitted diseases.

* $P < .01$, a comparison with HIV-positive European American with χ^2 test.

** $P < .01$, a comparison with HIV-negative European American with χ^2 test.

*** $P < .01$, for comparisons by serostatus by race/ethnicity with χ^2 test.

[†] $P = .06$, by χ^2 test.

lence. The results of these analyses are presented in Table 1. Then, a series of multivariate logistic regressions were conducted to estimate the relative contribution of race/ethnicity and trauma history and other predictors to HIV and AIDS risks in the total sample. Furthermore, multivariate logistic regressions were conducted for each racial/ethnic group to determine whether trauma history confers differential risk.

Predictors were analyzed with best subset stepwise selection and included race/ethnicity, education, employment, per capita income, history of trauma, number of STDs, and number of sexual partners. Two dummy variables were created for race/ethnicity, contrasting each of the minority groups with European Americans. In addition, per capita income was standardized with a square root transforma-

tion, and number of sexual partners was standardized with log transformation. Finally, trauma history was recoded to reflect severity of traumatic experiences. Women with no trauma histories were coded (0), those with trauma scores of 1 to 3 were coded (1) (i.e., have less severe trauma history), and those with trauma scores of 4 or more were coded (2) (i.e., have more severe trauma history).

TABLE 2—Predictive Models: University of California Los Angeles–Drew Women and Family Project, 1994–2000

	OR	95% CI	P
Overall Sample			
Education	0.903	0.836, 0.976	.01
Employment	0.349	0.256, 0.475	< .001
Trauma history	1.693	1.163, 2.464	.006
No. of STDs	1.399	1.089, 1.798	.009
No. of sexual partners	1.471	1.179, 1.836	< .001
Predictive Model: African American Women			
Employment	0.193	0.108, 0.344	< .001
No. of sexual partners	1.809	1.228, 2.664	.003
Predictive Model: European American Women			
Education	0.769	0.649, 0.911	.003
Employment	0.404	0.252, 0.646	< .001
No. of sexual partners	1.477	1.073, 2.034	.02
Predictive Model: Latina Women			
Employment	0.429	0.222, 0.829	.012
No. of STDs	6.240	2.247, 17.330	< .001
No. of sexual partners	1.777	1.104, 2.859	.02

Note. OR = odds ratio; CI = confidence interval; STDs = sexually transmitted diseases.

F to enter was set = 1.0 and to remain = 1.1. Odds ratios (ORs) for each predictor variable were estimated from the logistic regression (Table 2). All analyses were performed with SAS, Version 8 (SAS Institute Inc, Cary, NC).

RESULTS

Group Differences in Background Characteristics

Tests for group differences, by race/ethnicity and HIV serostatus, in demographic characteristics and other predictors are included in Table 1. Results indicated a significant racial/ethnic difference in age ($F_{2,451} = 8.93$, $P < .001$), with Latina women significantly younger than the European American and African American women (mean age = 33.6 vs 37.9 and 36.3 years, respectively). There was also a significant racial/ethnic difference in education ($F_{2,448} = 68.71$, $P < .001$), with Latina women reporting significantly fewer years of education (mean = 10.1 years) than African American and European American women (mean = 12.8 and 14.0 years, respectively). However, this effect was moderated by HIV serostatus ($F_{2,448} = 4.37$, $P = .01$). European American women who were HIV seronegative

reported significantly more education (mean = 15.3 years) than did all other groups, and African American women who were HIV seronegative reported significantly more education than did Latina women who were both HIV seronegative and HIV seropositive (mean = 13.5 years vs 10.4 and 9.8 years).

In addition, among the women who were HIV negative, more African Americans were single or divorced (74%, $n = 35$) than were the Latina (48%, $n = 25$) and European American women (34%, $n = 20$) ($\chi^2_2 = 17.4$, $P < .001$). The same was true among the women who were HIV positive: more African American women were single or divorced (79%, $n = 85$) than were the Latina (56%, $n = 54$) and European American women (65%, $n = 61$) ($\chi^2_2 = 12.5$, $P = .002$).

Consistent with expectations, race/ethnicity ($F_{2,432} = 42.77$, $P < .001$) and HIV-serostatus ($F_{2,432} = 39.12$, $P < .001$) differences in per capita income also were significant. European American women had significantly higher average monthly per capita incomes (mean = \$1628) than did African American and Latina women (mean = \$803 and \$423, respectively), and African American women reported higher incomes than did Latina

women ($P = .007$). Women who were HIV positive in all racial/ethnic groups reported significantly lower average per capita incomes than did their seronegative counterparts. However, the racial/ethnic difference was moderated by HIV serostatus ($F_{2,432} = 8.69$, $P < .001$). European American women who were HIV negative reported significantly higher average monthly per capita incomes (mean = \$2215) than did all other groups. African American women who were HIV negative also reported significantly higher average monthly per capita incomes (mean = \$1218) than did both groups of Latina women and than did African American women who were HIV positive but not significantly higher than did European American women who were HIV positive (mean = \$1040).

These results suggested that being HIV-positive was associated with significantly lower income for women of all racial/ethnic groups, but this effect was most pronounced among the African American women. Latina women were significantly poorer than the other groups, regardless of their HIV serostatus.

Comparisons of unadjusted average monthly household incomes also were examined, and the results indicated that Latina women had significantly lower unadjusted monthly family incomes (mean = \$1460) than did both European American and African American women (mean = \$3602 and \$1993, respectively). The income difference between the European American and African American women also was significant ($F_{5,437} = 28.2$, $P < .001$). Latina women earned lower incomes and had more dependents than did both of the other groups, and European American women earned higher incomes and had fewer dependents than did African American women.

Group Differences in STD History

Race/ethnicity by HIV serostatus comparisons on number of STDs indicated that more Latina women reported never having had an STD (61%, $n = 91$) compared with European American (46%, $n = 71$) and African American women (34%, $n = 52$). Also, regardless of race/ethnicity, more women who were HIV positive (67%, $n = 200$) reported having had 1 or more STDs compared with women who were HIV negative (30%, $n = 48$). Among both women who were HIV negative and

women who were HIV positive, significantly fewer Latina women reported having had an STD than did the other 2 groups ($\chi^2_{10}=19.95$, $P=.03$ and $\chi^2_{14}=40.08$, $P<.001$ for HIV negative and HIV positive, respectively).

Group Differences in Trauma

Comparisons on history of child sexual abuse, adult sexual abuse, relationship violence, and overall burden of trauma identified several significant racial/ethnic and HIV-serostatus differences. Regardless of race/ethnicity, women who were HIV seropositive were more likely to report being victims of adult sexual abuse (European American: $\chi^2_1=11.72$, $P<.001$, African American: $\chi^2_1=7.58$, $P=.006$, and Latina: $\chi^2_1=8.85$, $P=.003$). In addition, African American women who were HIV positive were slightly more likely to report being a victim of more severe intrafamilial child sexual abuse ($\chi^2=5.53$, $P=.06$) than were the other 2 groups. Regardless of race/ethnicity, women who were HIV positive were significantly more likely to report a more severe history of trauma than were women who were HIV negative ($F_{1,434}=11.86$, $P<.001$).

Predictors of HIV Seropositivity

The results of the series of logistic regressions with odds ratios identified the best predictors of the likelihood of being HIV seropositive, both overall and separately by each racial/ethnic group (Table 2). Of particular interest was whether race/ethnicity and history of trauma were independent predictors in these models.

The model predicting HIV seropositivity with the entire sample indicated that women who had more sexual partners (OR=1.471; 95% confidence interval [CI]=1.179, 1.836), who were unemployed (OR=0.349; 95% CI=0.256, 0.475), who had more STDs (OR=1.399; 95% CI=1.089, 1.798), who had a more severe history of trauma (OR=1.693; 95% CI=1.163, 2.464), and who were less educated (OR=0.903; 95% CI=0.836, 0.976) were more likely to be HIV seropositive. This was a strong model, with percentage concordance=82.0% and percentage discordance=17.8%. It is particularly noteworthy that race/ethnicity was not an independent predictor of risk when other risk factors were considered.

The models predicting HIV seropositivity in each of the racial/ethnic groups separately confirmed this general conclusion. The model predicting risk in the African American women indicated that only unemployment (OR=0.193; 95% CI=0.108, 0.344) and number of sexual partners (OR=1.809; 95% CI=1.228, 2.664) conferred the greatest risk for HIV in this group. For European American women, HIV seropositivity was predicted by unemployment (OR=0.404; 95% CI=0.252, 0.646), low education (OR=0.769; 95% CI=0.649, 0.911), and number of sexual partners (OR=1.477; 95% CI=1.073, 2.034). Finally, the model for Latina women indicated that HIV risk was predicted by number of STDs (OR=6.240; 95% CI=2.247, 17.330), unemployment (OR=0.429; 95% CI=0.222, 0.829), and number of sexual partners (OR=1.777; 95% CI=1.104, 2.859). Consistent with expectations, history of trauma was a risk factor overall for these women. However, no racial/ethnic differences were found in the relative contribution this factor made to HIV-related risk, and African American women evidenced no greater vulnerability to this risk factor.

All of the models were strong, with percent concordance ranging from 79.0 to 83.0, with the highest rate in the model for European Americans and the lowest in the model for Latina women. Percent discordance ranged from 16.1 to 17.0.

DISCUSSION

This study examined whether a history of traumatic life experiences would be an independent predictor of HIV-related risk in a multiethnic sample of African American, Latina, and European American women who were HIV positive and HIV negative and whether there would be racial/ethnic differences in the relative contribution trauma made to risks for this disease. This diverse sample of women who were HIV positive or HIV negative was relatively young, poor, undereducated, underemployed, and not in stable relationships. The Latina women were younger, poorer, and less educated but more likely to be married or living with a partner than were the other women. Women were moderately sexually active and had moderate

rates of STDs; Latina women reported fewer sexual partners, and fewer had histories of STDs. However, the regression model for Latina women suggested that their lower burden of risk factors did not alter the relative contributions these factors made to risk.

The results also indicated that regardless of race/ethnicity, the women who were HIV positive reported having more sexual partners, more STDs, and more severe histories of abuse than did their counterparts who were HIV negative. African American women who were HIV positive were more likely to report histories of severe child sexual abuse, and this may have increased sexual risk-taking practices. Perhaps the most important finding of the study was that women's HIV risk was not a function of their race/ethnicity. Instead, the observed higher morbidity and mortality rates for HIV and AIDS in women of color were not specifically attributable to their race/ethnicity but rather were likely attributable mainly to differences in socioeconomic resources, exposure to violence, and exposure to risky sexual behaviors.

Several implications can be derived from these findings. For example, most HIV prevention programs address only consensual sexual practices and fail to address the psychological consequences of early abuse on sexual decision making.²⁸ Our findings suggested that sexual abuse, incidents of attempted and completed rape since age 18, and physical abuse in childhood and adulthood conferred additional risk for HIV infection. The use of a composite trauma index provided a clearer picture of the effect of cumulative exposure to interpersonal violence on HIV-related risks in these women. Although attention is currently being focused on HIV exposure prophylaxis when persons who are HIV positive suspect that they have been reexposed to HIV, less attention has been given to the possibility that women who are HIV infected also may be at risk for revictimization through coercion and rape.

More research is needed on the causal direction of this relation. Perhaps the same factors that increase HIV risks for women also place them at risk for nonconsensual sex. It is also important to note that although more African American women were victims of violence, the relative significance of this risk

factor was not moderated by race/ethnicity but was a general risk factor irrespective of race/ethnicity. This issue merits attention from health care providers and health researchers.^{29–31} Coercive and abusive relationships limit a woman's ability to effectively negotiate safer sex and also may be indirectly associated with involvement with multiple partners or "survival sex" for financial stability. Greater economic dependence on partners can limit women's personal control over HIV risk practices.^{22,24}

These findings also indicated that deprivation of socioeconomic resources, especially the psychological benefits of employment and education, may be more important than income and other factors in increasing risks for this disease.³² They are likely one of the major contributors to observed differences in HIV-related morbidity and mortality. However, within-group analyses can be useful in exploring possible group differences in the relative contributions different risks and protective factors make in conferring risk and protecting women from HIV and AIDS. ■

About the Authors

Gail E. Wyatt, John K. Williams, Tamra Loeb, Jennifer Vargas Carmona, Dorothy Chin, and Nicole Presley are with the Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles. Hector F. Myers is with the Department of Psychology, University of California, Los Angeles. Christina Ramirez Kitchen is with the Department of Biostatistics, School of Public Health, University of California, Los Angeles. Lacey E. Wyatt is with the Department of Family Medicine, University of California, Los Angeles. Hector F. Myers is also with the Department of Psychiatry, Charles R. Drew University of Medicine & Science, Los Angeles, Calif.

Requests for reprints should be sent to Gail E. Wyatt, PhD, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, 760 Westwood Plaza–NPI (Room C8-871C), Los Angeles, CA 90024-1759 (e-mail: gwyatt@mednet.ucla.edu).

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Contributors

G. E. Wyatt conceptualized the hypothesis and oversaw the preparation and writing of the paper. H. F. Myers and J. K. Williams set up the analyses in close collaboration with C. Ramirez Kitchen, and wrote the "Methods" and "Results" sections. C. Ramirez Kitchen reviewed the data and provided critical feedback and recommendations for further analyses. T. Loeb and J. Vargas Carmona created the variables and wrote the introduction and sections on child sexual abuse. L. E. Wyatt and N. Presley prepared the data, including literature searches. G. E. Wyatt and D. Chin reviewed and edited all sections.

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